

ABSTRAK

Di era sekarang ini kebutuhan akan bahan bakar minyak sangatlah penting. Karena harga minyak dunia menjadi barometer harga barang pokok lainnya. Di Negara Indonesia, kenaikan harga BBM (bahan bakar minyak) sudah menjadi rutinitas tahunan yang harus dihadapi. Dalam mengatasi permasalahan tentang bagaimana cara atau metode penghematan bahan bakar minyak, banyak dari masyarakat yang mengembangkan energy alternative sebagai solusi efektif dan efisien diantaranya HCS (*Hydrocarbon Crack System*) atau bahasa Indonesianya system pemecahan hidrokarbon. HCS (*Hydrocarbon Crack System*) sangatlah berbedadengan BBH yang dikembangkan di Negara Jepang tersebut.. Dalam penelitian ini ada 3 variabel, 2 variabel *independent* yakni variasi panjang pipa dan komposisi penambahan etanol. Dan satu variabel *dependent* yakni konsumsi bahan bakar. Metode yang digunakan adalah metode *Design of Experiment* RAL factorial dengan masing – masing factor ada 3 taraf. Berdasarkan perhitungan manual analisis ragam 2 arah dan *out put* dari *software* Minitab 14 didapatkan faktor yang berpengaruh signifikan terhadap konsumsi bahan bakar sepeda motor adalah factor komposisi penambahan etanol dimana nilai $F_{hitung} > F_{tabel}$ ($7,875 > 4,256$). Dan nilai $p - value$ nya lebih kecil dari 0,05 ($0,01 < 0,05$) . Dimana factor komposisi penambahan etanol mempunyai pengaruh sebesar 46.90 % dan sisanya dipengaruhi oleh faktor yang lain yang tidak dijelaskan dalam penelitian ini.

Kata kunci :Penghematan bahan bakar , HCS (*Hydrocarbon Crack System*) , Analisis Ragam Dua arah

ABSTRACT

In this era in need of fuel is very important. Because crude oil prices become a barometer of the price of other basic goods. In the State of Indonesia, rising fuel prices (fuel oil) has become an annual routine that must be faced. In addressing the issue of how the way or method of saving fuel, a lot of people who is developing alternative energy as an effective and efficient solutions including HCS (Hydrocarbon Crack System). HCS (Hydrocarbon Crack System) is very different from the BBH has developed in the Japanese country .. In this study, there are three variables, two independent variables, the variation in the length of pipe and the composition of the addition of ethanol. And the dependent variable, is specific fuel consumption. The method used is factorial completely randomized design with three levels. Based on the manual calculation of a 2-way analysis of variance and the out put of software Minitab 14 didapatkan factors that significantly influence the fuel consumption of the composition of the motorcycle is the addition of ethanol which $F \text{ value} > F \text{ table}$ ($7.875 > 4.256$). And the p -value - its value is less than 0.05 ($0.01 < 0.05$). Where the composition of factors have an influence addition of ethanol at 46.90 % and the rest influenced by other factors which is not describes in this study.

Key words :Fuel efficiency , HCS (Hydrocarbon Crack System) , Analysis Of Variance (Anova) Two way